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ABSTRACT

Business educators in middle schools and high schools across the country play a prominent role in developing the knowledge, skills, and attitudes necessary for students to succeed in the workforce. With the advancement of technology, business teachers are coming back to the teacher education program to be retooled and retrained to teach business education. These returning in-service teachers are not only overwhelmed by the technical aspects of the Internet, spreadsheets, and databases, but also by the new pedagogy that has come about in the information age. A portfolio at the K-12 education level is a collection of a student's work that can be used to demonstrate his or her skills and accomplishments. It may include other features such as teachers' evaluations and student self-reflections. In business education, a portfolio may be used to demonstrate a student's achievements in specific subject areas or it may be used across the curriculum to assess abilities in all subject areas. Electronic portfolios contain the same types of information as the print-based portfolios but the information is collected, stored, and managed in computer-based programs. Five types of portfolios have been widely accepted in business education: development portfolios, teaching planning portfolios, proficiency portfolios, showcase portfolios, and employment readiness portfolios. Returning in-service teachers need to gain more knowledge regarding electronic portfolios, and how to modify rubrics to evaluate students' portfolios. The aim of this paper is to provide an overview of the use of electronic portfolio as the course framework in pre-service and in-service teacher education programs of business and vocational education. This paper also discusses one example of electronic portfolios: OCED 6315 Advanced Information Technology at the College of Technology, University of Houston. (Author/AEF)

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Experiencing, Learning, and Teaching of Secondary Business Education in a Virtual Environment: The Use of Electronic Portfolio as Curriculum Framework for a Preservice Course "Advanced Information Technology"

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Abstract: The aim of this paper is to provide an overview of the use of electronic portfolio as the course framework in pre-service and in-service teacher education programs of business and vocational education. The growing group of returning teachers to be retrained as business education teachers need to gain more knowledge regarding electronic portfolios, and how to modify rubrics to evaluate students' portfolios. The paper will also discuss one example of electronic portfolio: OCED 6315 Advanced Information Technology at College of Technology, University of Houston.

Returning Teachers for Technology Deficiency in Business Education

The primary purpose of business education is to provide instruction for and about business. Students learn the basics of personal finance, develop techniques for making wise consumer decisions, master economic principles, and learn how businesses operate. The multifaceted discipline of business education includes subject matter areas which focus on the functional areas of business, such as management, marketing, finance, accounting, and entrepreneurship, on factors which affect business, such as economics, international business, business law, on basic skills, such as computation and communication, and on examining business from different perspectives.

One of the most important components of business education is information technology. In this critical area students learn to use computers as tools with related software and hardware on the following domains:

- Interpersonal, teamwork, and leadership skills necessary to function in computerized business settings.
- Select and apply the tools of technology as they relate to personal and business decision making.
- Career awareness and related skills in the information age to enable students to make viable career choices and become employable in a variety of business careers.
- Communicate both face to face and electronically as writers, listeners, and speakers in social and business settings.

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Become entrepreneurs in the information age by drawing from their general understanding of all aspects of business.

Business educators in middle schools and high schools across the country play a prominent role in developing the knowledge, skills, and attitudes necessary for students to succeed in the workforce. Business educators are a special group of teachers who teach students the real world content subjects such as accounting, business law, career development, communication, computation, economics and personal finance, management, marketing, and information technology. With the advent of modern technology, the computer subjects which have been newly added to the list in recent years by Texas Education Agency are Keyboarding, Business Computer Information Systems I & II, Business Support Systems, Business Image Management and Multimedia, Telecommunications and Networking, and so on.

Many of the business education teachers came to teaching with a degree in traditional accounting, finance, or marketing and carry with them years of experiences in retailing, industry, and business. When they were in schools and universities, most of them probably learned to make decisions, to produce professional documents, and to communicate, and to investigate various business-related topics without the use of the modern office technology and the Internet. With the advance of technology, business teachers are coming back to the teacher education program to be retooled and retained to teach business education. They are also expected to demonstrate more specific technical skills and possess professional qualities as a result of their preparation.

Many in-service teachers who started teaching their teaching careers early feel the needs to come back to the teacher education program to be retrained and retooled to teach the new courses. In Texas, most pre-service teachers in marketing education, vocational education, and business education are required to take several computer related courses to keep abreast with the up-to-date curriculum demands. Those courses may be a university level database management course, advanced information technology application course, or multimedia course, depending on the pre-service teachers' previous background and teaching areas.

This group of returning in-service teachers not only is overwhelmed by the technical aspects of Internet, the spreadsheet, and databases, but also by the new pedagogy that they have not experienced before. They used to be taught in traditional classroom with lecture type of instruction and being tested on paper and pencil. When they became teachers, the same lecture type of instruction and paper and pencil tests were given by many of them to their students. In new paradigm, the authentic assessment approach of portfolio and electronic portfolio are something that involves both the technical aspects and the pedagogical aspect of education alike.

Portfolio and Electronic Portfolio in Business Education

A portfolio at the K-12 education level is a collection of a student's work that can be used to demonstrate his or her skills and accomplishments (Paulson, Paulson, & Meyer, 1991, p. 61). It may include other features such as teachers' evaluations and

student self-reflections. In business education, a portfolio may be used to demonstrate a student's achievements in specific subject areas such as telephone skills, career opportunities, or it may be used across the curriculum to assess abilities in all subject areas. The terms "computer-based portfolio" and "electronic portfolio" are used to describe portfolios saved in electronic format. Electronic portfolios contain the same types of information as the print-based portfolios, but the information is collected, stored, and managed.

Research confirms that the "focus in teaching and learning should be on the individual's active construction of knowledge" (Stevenson 1994, p. 29). The critical role of business education is "to facilitate construction of knowledge through experiential, contextual, and social methods in real-world environments" (Lynch, 1997, p. 27). Because the focus is on the learner, business education should be conceptualized as a learning process rather than a teaching process (Stevenson, 1994).

Types of Electronic Portfolio in Business Education

These five types of portfolios have been widely accepted in business education (Stevenson, 1994):

Developmental portfolios. A teacher who is interested in documenting a student's improvements containing samples of the student's work along with self-evaluations of specific assignments

Teacher planning. Teachers may use an existing portfolio system from previous semesters in order to receive information about an incoming class of students.

Proficiency portfolios. Some high schools students in the schools are required to complete a number of components in the portfolios that demonstrate their competence and performance in areas such as electronic graphic design, Web page design and desktop publishing.

Showcase portfolios. A showcase portfolio can display a student's best work accomplished during a certain time period. It can be composed of activity products that best represent the student's skills and abilities.

Employment readiness portfolios. Businesses are increasingly interested in reviewing student portfolios to decide a prospective employee's work readiness skills such as database design and Web page design.

An Example

For the teachers to fully implement this assessment format in their classrooms, they have to feel comfortable to compile portfolios as classroom requirement first. One way for the business education teacher to conquer the distrust of the electronic portfolio assessment approach is having them experience it themselves. One teacher education program that requires students to create electronic portfolios is College of Technology, University of Houston. The paper will focus on one special course, OCED 6315 Advanced Information Technology that was taught by the author.

A number of key components of the course are required: professional portfolio, research journal articles on the topics of Project-based learning, using rubric as a form of evaluation, using portfolio in K-12 business education, the Internet, and Web Quest. PowerPoint has been used as the multimedia platform to tie all components together. Through building the electronic portfolios, the students have learned the skills of constructing Web Quest, web editing, managing online course, and conducting online research on various topics. At the end of the semester, students are required to turn in an electronic portfolio with digital video clips of their own teaching for reflection and self-improvement.

The students are responsible for updating and selecting the work samples they include in the portfolio and can select virtually any piece of work as artifact that they believe best represents their philosophy, skills and abilities. Upon completion, the portfolios were disseminated in CD-ROM format. A portfolio presentation was also conducted as partial requirement of the course.

There were 18 students in the Summer session of OCED 6315, including 14 females and 4 males. Their current teaching subjects ranged from entrepreneurship, marketing, computer science, computer information systems, to math. All but one student were classroom teachers. Most of them had previous business experiences working in retails, federal grant offices, corporate offices, or even ran small business of their own. Half of them are certified in a field other than business and tried to be retooled and retrained for business education. One was a full time graduate student and another one was teaching right after receiving her college degree. The average year of teaching experiences is 2.4. Among the 18 students, 12 students are African American and 6 are White. It was surprising that in an area of high Hispanic population, there was no student of the Hispanic origin in the class. Students' average age was 41.

An anonymous survey of students' opinions on the portfolio was conducted at the end of the semester. Among the 18 students, 12 indicated that they were comfortable with using the electronic portfolio the course framework while 4 indicated that they were very comfortable with the course framework. Only 2 indicated that they were uncomfortable and none indicated that they were very uncomfortable with the framework.

However, on the survey, when asked whether they will use electronic portfolio as course framework in their classrooms, only 5 pointed out that they would definitely try it, and 7 said they would probably try it. Among the 6 students who did not intend to try the electronic portfolio as course framework, the written reasons included communication difficulty to school administrators and parents, suspicion of the fairness of the assessment format, wanting to wait for more teachers to use before using it themselves, too much preparation work, format does not fit into current curriculum, and so on.

Conclusion

To meet the needs of an emerging information-based society, preparing business education teachers to instruct students to meet society's new demands has created a new

agenda for business teacher educators. Electronic portfolio approach seems to offer authentic assessment and evaluation method for business education classrooms environment. However, for the teachers to fully implement the portfolio assessment method in their classrooms, they have to feel comfortable both in the cognitive domain and affective domain. Cognitively, they have to learn the way to modify their curriculum and method of giving grades based on well-constructed rubrics; affectively, they need to have trust on the electronic portfolio and rubric assessment system themselves.

The implementation of electronic portfolios for student assessment is an exciting educational innovation. This method of assessment not only offers an authentic demonstration of accomplishments, but also allows students to take responsibility for the work they have done. In turn, this motivates them to achieve higher accomplishment in the future. An electronic portfolio system offers many advantages for both the education and the business communities and should continue to be a popular assessment tool in the information age.

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